PE TITLE: Adv Med Range A/A Msl

### **RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)**

February 1999

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

### 7 - Operational System Development

0207163F Adv Med Range A/A Msl

3777

COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
3777 AMRAAM	39,181	35,663	49,783	54,184	51,355	33,894	33,521	34,459	73,900	687,364
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

#### (U) A. Mission Description

The Air Force and Navy developed the baseline Advanced Medium Range Air-to-Air Missile (AMRAAM) as a high performance, all weather missile to counter existing air vehicle threats operating at high or low altitude and having advanced Electronic Protection (EP) capabilities. The AMRAAM Pre-Planned Product Improvement (P3I) program provides for a continuing, Joint Air Force/Navy research and development program which enables AMRAAM to: (1) be compatible with advanced fighters, (2) enhance AMRAAM capability and operational flexibility against mid-1990's and beyond threats, (3) incorporate high payoff technology developments, and (4) investigate new variants and/or alternate missions which may use many baseline missile attributes. Currently, improvements under the P3I program include enhanced EP capabilities; improved weapon effectiveness through improved warhead, fuzing, and guidance; and increased kinematics via a new 5-inch stretched rocket motor. AMRAAM is a joint Air Force/Navy, Acquisition Category (ACAT) IC program with Air Force as lead service.

#### (U) FY 1998 (\$ in Thousands):

- (U) \$24,076 Completed P3I Phase 2 Engineering & Manufacturing Development (EMD) for warhead and +5" rocket motor for kinematics improvement.
- (U) \$ 9,420 Completed Phase 3 risk reduction for improved seeker and enhanced EP updates.
- (U) \$ 3,438 Continued Mission Support
- (U) \$ 2,247 Continued Test and Evaluation
- (U) \$39,181 Total

### (U) <u>FY 1999 (\$ in Thousands):</u>

- (U) \$27,954 Initiate P3I Phase 3 EP and guidance EMD
- (U) \$ 2,312 Continue Mission Support
- (U) \$ 4,347 Continue Test and Evaluation
- (U) \$ 1,050 Identified as source for SBIR
- (U) \$35,663 Total

Project 3777 Pages 1 of 7 Pages

Exhibit R-2 (PE 0207163F)

## DATE RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) February 1999 BUDGET ACTIVITY PE NUMBER AND TITLE **PROJECT** 3777 0207163F Adv Med Range A/A Msl 7 - Operational System Development (U) FY 2000 (\$ in Thousands): (U) \$47,514 Continue P3I Phase 3 improved seeker and advanced EP updates Continue mission support (U) \$ 1,990 Continue test and evaluation (U) \$ 279 (U) \$49,783 Total (U) FY 2001 (\$ in Thousands): (U) \$51,843 Continue P3I Phase 3 improved seeker and advanced EP updates (U) \$ 2,053 Continue mission support (U) \$ 288 Continue test and evaluation (U) \$ 54,184 Total (U) B. Budget Activity Justification: This program is in budget activity 7 - Operational System Development, providing upgrades to the AIM-120C missile now in production. Project 3777 Page 2 of 7 Pages Exhibit R-2 (PE 0207163F)

RDT&E BUDGET ITEM JU	DATE <b>Feb</b>	DATE February 1999				
BUDGET ACTIVITY		PE NUMBER AN				PROJECT
7 - Operational System Development		0207163F	Adv Med R	ange A/A Ms	<b>SI</b>	3777
(U) C. Program Change Summary (\$ in Thousands)						
					Total	
	FY 1998	FY 1999	FY 2000	FY 2001	<u>Cost</u>	
(U) Previous President's Budget/FY 1999 PB	39,875	45,078	47,289	41,815	664,031	
(U) Appropriated Value	43,781	36,078				
(U) Adjustments to Appropriated Value						
a. Congressional/General Reductions	-1,851	-415				
b. SBIR	-1,822					
c. Omnibus or Other Above Threshold Reprogram	-927					
d. Below Threshold Reprogramming						
(U) Adjustments to Budget Years Since FY 1999 PB			2,494	12,369		
(U) Current Budget Submit/FY 2000 PB	39,181	35,663	49,783	54,184	687,364	

#### (U) Significant Program Changes:

FY99: \$1,050 identified as source for SBIR. FY99 RDT&E Congressional Reduction (\$9M) moves modeling and simulation planned for FY99 into the following fiscal year, increasing technical risk.

FY00 adjustments include +\$2.494M; FY01 adjustments include +\$12.369M for continued efforts in the P3I Phase 3 Seeker program. Adjustments beyond the Budget Years include completion of P3I Phase 3 Seeker and Rocket Motor programs.

Phase 2 flight test slipped from 4th Qtr FY98 to 1st Qtr FY99 and was completed 22 Dec 98; SCAS FCA slipped to Feb 99. SCAS technical problems causing these slips have been resolved.

Project 3777 Page 3 of 7 Pages Exhibit R-2 (PE 0207163F)

RDT&E BUDGE	T ITEM JU	STIFIC	ATION	SHEET	Γ (R-2 E	xhibit)		DA	.⊤E Febrι	uary 1999
BUDGET ACTIVITY			F	PE NUMBER	AND TITLE				. 0.0.1	PROJECT
7 - Operational System Developi	ment			0207163	F Adv I		3777			
(U) D. Other Program Funding Summary	y (\$ in Thousan	<u>ds)</u>	•							
(U) Missile Procurement, Budget Activity #7 PE 0207163F, P-1 Line Item, AMRAAM	<u>FY 1998</u> , 101,926	FY 1999 92,239	FY 2000 97,279	FY 2001 98,969	FY 2002 116,538	FY 2003 110,804	FY 2004 112,372	FY 2005 114,107	To <u>Compl</u> 216,128	Total <u>Cost</u> 6,820,607
(U) Replenishment Spares, BP 25	0	5,218	330	237	242	241	5,598	6,085	400	71,276
(U) Initial Spares, BP26	1,057	2,658	204		117	122	122	112	400	65,557
(U) Seek Eagle	0	0	0		0	0	0	0	0	15,143
The AMRAAM Pre-Planned Product new user requirements. The Phase 1 enhancements. The phase 2 AIM-12 rocket motor. The first phase 2 missi 3 missile is the first major upgrade to EMD contract was awarded on 29 Oc rocket motor to meet increased kinem (U) F. Schedule Profile	missile, current 0 C4 missile ad le will be AIM- the seeker hard et 1999. This m natic requirement	ly in produ ds lethality 120 C4s de lware and s issile will b nts.	ction, allow and the AI divered in A oftware to a begin delive	ws carriage of M-120 C5: Aug of FY9 meet perfor eries in FY0	on the F-22 missile add 9. The AIM mance required. The sec	with clippe s kinematic M-120 C5 n irements fo ond stage o	ed wings an improvem hissiles will be the 2003 of Phase 3, l	nd fins as we ents with a l begin deliv time-period beginning ir	ell as providinew warhead very in Jul of . A Cost Plu n FY04, will	ng some software d and +5 inch FY00. The Phase as Award Fee develop a new
(ID DOI Disease 2 Trans 7D Fit Trans Comm	1 2	3 4		2	3 4	1	2 3	4	1 2	3 4
(U) P3I Phase 2 Tape 7B Flt Test Comp (U) P3I Phase 2 SCAS FCA (Shortened Control Actuation System)			X	X						
<ul><li>(U) P3I Phase 2 Rocket Motor FCA</li><li>(U) P3I Phase 3 Seeker EMD Contract Award</li></ul>	X		X							
<ul><li>(U) P3I Phase 3 Seeker SDR</li><li>(U) P3I Phase 3 Fuzing FCA</li><li>(U) P3I Phase 3 Seeker PDR</li></ul>					X X		X			
(U) P3I Phase 3 Seeker CDR										X
Project 3777			Page	4 of 7 Page	?S			Exhibit R	-2 (PE 020	7163F)

RD	T&E PRO	GRAM EL	.EMENT/PI	ROJECT	COST	BREAKD	OWN (R-	3)	DATE <b>F</b>	ebruary 1	999
BUDGET ACTIVITY 7 - Operation	al System D	evelopmeı	nt			BER AND TITLE AND TITLE	Med Range			PROJECT <b>3777</b>	
(U) A. Project Co	ost Breakdown	(\$ in Thousan	ds)								
				FY 19	<u>98</u>	FY 1999	FY 2000	FY 2001			
<ul><li>(U) a. Phase 2 EMD Warhead &amp; Rocket Motor</li><li>(U) b. Phase 3 Risk Reduction</li></ul>				24,0		0	0	0			
(U) c. Phase 3 EM Updates		ker and Advar	iced EP	9,42	0	0 27,954	47,514	51,843			
(U) d. Gov Mission Support (U) e. Gov Test & Evaluation				3,4: 2,2		2,312 4,347	1,990 279	2,053 288			
(U) f. Identified as source for SBIR (U) Total				39,1	0	1,050 35,663	0 49,783	0 54,184			
(U) B. Budget Ac	cquisition Histor	ry and Planni	ng Information	(\$ in Thousa	nds)						
Performing Organ	nizations:										
Contractor or Government Performing Activity Identified as source for SBIR	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Tota Prior to <u>FY 199</u> 3	Budget	Budget <u>FY 1999</u> 1,050	Budget FY 2000	Budget FY 2001	Budget to Complete	Total Program 1,050
Product Developm	-		27/4	27/4	<b>5 5</b> 0		100	<b>71</b> 0	0.450	c 701	10.014
Misc. Contracts Various	SS/FFP	Annual	N/A	N/A	7,798		132	718	3,173	6,521	19,014
F08635-90-C-0201 Hughes*	SS/FFP	Aug 90	5,200	5,200	5,200		0	0	0	0	5,200
F08626-91-C-0034 Hughes	SS/CPIF SS/CPAF	Mar 91 Jun 94	93,506	93,506	93,500		0	0	0	0	93,506
F08626-93-C- 0044 (Phase 2) Hughes	SS/CPAF	Jun 94	117,558	117,558	88,25	7 29,301	0	U	0	0	117,558
Project 3777				Р	age 5 of 7	Pages		Exhi	oit R-3 (PE	0207163F)	

RD	COST B	COST BREAKDOWN (R-3)				DATE February 1999					
BUDGET ACTIVITY					_	R AND TITLE					PROJECT
7 - Operationa		020716	0207163F Adv Med Range A/A Msl				,	3777			
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
Activity Phase 3 Risk Reduction	Vehicle SS/CPAF	Date Oct 95	<u>EAC</u> 24,484	<u>EAC</u> 24,484	FY 1998 20,961	FY 1998 3,523	FY 1999 0	FY 2000 0	FY 2001 0	Complete 0	<u>Program</u> 24,484
Phase 3 Improved Fuzing Capability	SS/CPAF	Oct99	7,233	7,233	0	0	7,233	0	0	0	7,233
Phase 3 Improved Seeker and Advanced EP	SS/CPAF	Oct99	193,682	193,682	0	0	20,589	46,796	48,670	77,627	193,682
EMD Contract Phase 3 Follow on	SS/CPAF	Oct04	TBD	120,517	0	0	0	0	0	120,517	120,517
Support and Manag						_			_	_	
COEA Contractor	PO/MIPR PR/REO	Jan 94 Annual	N/A N/A	N/A N/A	3,358 12,356	0 2,660	0 1,495	0 1,367	0 1,405	0 7,981	3,358 27,263
Support JSPO Operations	REO/MIPR	Annual	N/A	N/A	17,053	778	817	623	648	3,746	23,665
Test and Evaluation Government Test	n Organizations PO/MIPR	Annual	N/A	N/A	30,555	2,247	4,347	279	288	8 ,086	45,802
*Note: Hughes bec	came part of Ray	theon Systems	effective Dec 97								
Project 3777				P	age 6 of 7 Pa	ges		Ext	nibit R-3 (PE	0207163F)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE <b>F</b>	DATE <b>February 1999</b>			
SUDGET ACTIVITY 7 - Operational System Development				_	PE NUMBER AND TITLE  0207163F Adv Med Range A/A Msl					PROJECT <b>3777</b>		
(U) B. Budget Ac	Contract		g Information Con	ntinued (\$ in Thousand	<u>ls)</u>							
Item <u>Description</u>	Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget FY 2000	Budget <u>FY 2001</u>	Budget to Complete	Tota <u>Program</u>		
<b>Government Furn</b>	nished Property:											
Product Developme Not Applicable	ent Property											
Support and Manag Not Applicable	gement Property											
Test and Evaluation TM/ECM Pods	n Property MIPR/PO			2,380	0	0	0	0	2,651	5,031		
Identified as a sour Subtotal Product D Subtotal Support at Subtotal Test and E	evelopment nd Management			0 215,722 32,767 32,935	0 33,496 3,438 2,247	1,050 27,954 2,312 4,347	0 47,514 1,990 279	0 51,843 2,053 288	0 204,665 11,727 10,737	1,050 581,194 54,287 50,833		
Total Project				281,424	39,181	35,663	49,783	54,184	227,129	687,364		
Project 3777				Page 7 of 7 Pag	ves		Exh	nibit R-3 (PE	0207163F)			

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